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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/605,952	11/10/2003	Shyh-Jong Chung	REAP0036USA	2951

27765 7590 04/19/2005

NORTH AMERICA INTERNATIONAL PATENT OFFICE (NAIPC)  
P.O. BOX 506  
MERRIFIELD, VA 22116

EXAMINER

LE, HOANGANH T

ART UNIT	PAPER NUMBER
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2821

DATE MAILED: 04/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/605,952

Applicant(s)

CHUNG ET AL.

Examiner

HoangAnh T. Le

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 03 March 2005.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-23 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

  
Hoanganh Le  
Primary Examiner

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

1. The amendment filed on March 03, 2005 is acknowledged.

***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1,3-5,7-9,11,12, and 14 are rejected under 35 U.S.C. 102(b) as being anticipated by Matsuoka et al (the US patent No. 6,008,773, of record).

The Matsuoka et al reference teaches in figure 1 an antenna, comprising: a dielectric layer 2 having a first surface and a second surface which is spaced apart from and is substantially parallel to the first surface, a ground layer 4 of electrically conductive material covering a portion of the first surface of the dielectric layer, a feed-line 5 of electrically conductive material disposed on the second surface of the dielectric layer, a first radiating element 3 of electrically conductive material disposed on the dielectric layer and electrically connected to the feed-line, wherein the first radiating element is for generating a first operating frequency of the antenna, and a second

radiating element 6 of electrically conductive material disposed on the dielectric layer in close proximity to the first radiating element such that an electromagnetic energy can be transformed from the first radiating element to the second radiating element through energy coupling, wherein the second radiating element is for generating a second operating frequency of the antenna. The first and second radiating elements 3,6 are disposed on different surfaces of the circuit board. The first radiating element 6 is disposed on the second surface of the circuit board, and the second radiating element 3 is disposed on the first surface of the circuit board. At least a portion of the first radiating element disposed on the second surface of the printed circuit board is in close proximity to at least a portion of the second radiating element disposed on the first surface of the printed circuit board (figure 1). The second radiating element is a half-wavelength resonator (col. 4, line 29).

4. Claims 1,2,6,8-10,13,15-20, and ~~22~~ are rejected under 35 U.S.C. 102(e) as being anticipated by Wong et al (the US patent No. 6,774,853).

The Wong et al reference teaches in figure 1 an antenna, comprising: a dielectric layer 14 having a first surface and a second surface which is spaced apart from and is substantially parallel to the first surface, a ground layer 13 of electrically conductive material covering a portion of the first surface of the dielectric layer, a feed-line 11 of electrically conductive material disposed on the second surface of the dielectric layer, a first radiating element 103 of electrically conductive material disposed on the dielectric layer and electrically connected to the feed-line 11, wherein the first radiating element is for generating a first operating frequency of the antenna, and a second radiating

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element 102 of electrically conductive material disposed on the dielectric layer in close proximity to the first radiating element such that an electromagnetic energy can be transformed from the first radiating element to the second radiating element through energy coupling, wherein the second radiating element is for generating a second operating frequency of the antenna. The first and second radiating elements 103,102 are both disposed on a same surface of the circuit board 14 (figure 1). The first radiating element is a monopole antenna (figure 1). The first frequency is about 5.5GHz and the second frequency is about 2.4 GHz (col. 3, lines 35-55). The antenna is attached to a wireless LAN device (col. 2, line 54).

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 21 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wong et al (cited above) in view of Matsuoka et al ( the US patent No. 6,008,773).

The Wong et al reference teaches every feature of the claimed invention, excluding the first radiating element being disposed on the first surface of the dielectric layer, and the second radiating element being disposed on the second surface of the dielectric layer; and the second radiating element being a half-wavelength resonator.

The Matsuoka et al reference teaches in figure 1 a first radiating element 3 being disposed on the first surface of the dielectric layer 2, and a second radiating element 6 being disposed on the second surface of the dielectric layer 2; and the second radiating element 6 being a half-wavelength resonator (col. 4, line 29) in order to improve the characteristics of the antenna.

Since one of ordinary skill in the art would recognize the benefit of improving the characteristics of the antenna, it would have been obvious to provide Wong et al with the first radiating element being disposed on the first surface of the dielectric layer, and the second radiating element being disposed on the second surface of the dielectric layer; and the second radiating element being a half-wavelength resonator as taught by Matsuoka.

### ***Response to Arguments***

7. Applicant's arguments filed March 03, 2005 have been fully considered but they are not persuasive.

Applicant argues that Matsuoka does not teach the first radiating element being electrically connected to the feed line. Examiner respectfully disagrees. Matsuoka does teach in figure 1 the first radiating element 3 electrically connected to the feed line 5 (since the feed line 5 feeds to the first radiating element 3, it is inherently electrically connected to first radiating element).

8. Since Matsuoka does show all claimed structure, including the feed line electrically connected to the first radiating element, the 102 rejection is proper.

***Conclusion***

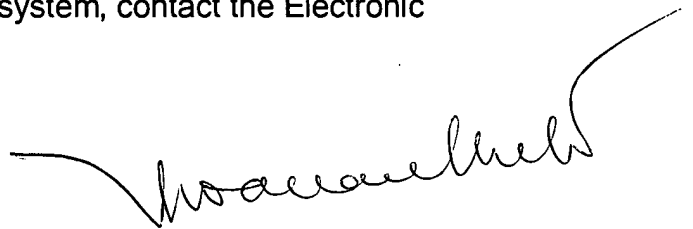
9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to HoangAnh T. Le whose telephone number is (571) 272-1823. The examiner can normally be reached on 8:00am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong can be reached on (571) 272-1834. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Hoanganh Le  
Primary Examiner